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MOSSES OF THE VICINITY OF ST. JOHN'S UNIVERSITY, COLLEGEVILLE, STEARNS COUNTY, MINNESOTA

Rev. James Hansen

[*Read at the Sullivant Moss Society Meeting, Minneapolis, Dec. 28, 1910*]

The territory referred to in the title of this paper is contained within a radius of one mile from St. John's University. The greater part is hilly woodland, the more important trees being oaks, elms, maple, birch and poplars,—the underbrush consisting largely of hazel, sumach, blackberry, raspberry, hawthorns, prickly ash, dogwoods, leatherwood and several shrubs of the honeysuckle family. On the south is St. John's Lake, about one mile in greatest length, with a hilly shore and many little bays. There is also the millpond of the Watab, a creek which flows through the meadow land to the north of the buildings. There are many depressions or ponds in the woods which contain water for the greater part of the year. A tamarack swamp, the floor of which consists mostly of peat mosses, mixed with other mosses and liverworts, marks the eastern boundery of of the area.

The soil is for the most part sandy clay, covered with a thin layer of humus. There is no exposed rock, but occasionally granite boulders occur, while the elevation above sea level is between 1,100 and 1,200 feet.

Since 1908, when the writer joined the Sullivant Moss Society, he has been induced by Dr. Grout's book "Mosses with a Hand Lens" to take an occasional stroll into the environment briefly sketched above, for the purpose of learning something of its moss flora.

At first, attention was paid only to such specimens as were found in fruit and in sufficient quantity to yield a number of fairly generous mounts. But it became evident that the strict adherence to this rule would unnecessarily delay the acquisition of a knowledge of the mosses of the neighborhood, so it was modified to include also good sterile specimens, barring only evidently depauperate forms, when found in small quantities. If all species, good or poor, fruiting or sterile, had been collected, undoubtedly they would have doubled or trebled the list, but in almost all other respects the time and labor devoted to them would have been a distinct waste.

The 58 species collected and mounted for exhibition at the meeting are distributed among 31 genera, on the average, therefore, not even two species to one genus. The genus best represented is *Amblystegium*, with six species; next *Thuidium* with five, *Hypnum*, *Mnium*, and *Brachythecium*, with four each, and *Bryum* and *Dicranum* with three each.

All species of the list, except Nos. 6, 30, 55, and 57, are reported for Minnesota in one or more of the following reports of J. M. Holzinger: Minn. Bot. Studies **1:** 280, 579, and 590; **2:** 36; **3:** 109; and BRYOLOGIST **13:** 50. They may have been reported in lists of later date, but the writer has not seen them. All have been submitted for verification to Mr. N. L. T. Nelson, except those few which the writer thought he could safely classify, *e. g.*, the Catharineas, Polytrichums, and Mniums. Mr. Nelson's findings on Nos. 8, 15, 27, 28, 30, 38, 45, 46, and 55, at the time of the presentation of this paper, had not yet been received, so that they are somewhat doubtful.

In the writer's opinion, the list represents about one-half or one-third of the species which actually do occur in the territory concerned. Failure to find *Neckera*, *Webera*, *Pogonatum*, *Ptychomitrium*, *Philonotis*, *Fontinalis*, etc., is ascribed to scarcity or total absence of these forms. Rock-inhabiting forms, such as *Grimmia*, are missing because their substratum also is lacking in the vicinity, the only rock-loving form being *Hedwigia albicans* (Web.) Lindb., which is common on undisturbed granite boulders.

As far as the substratum of the mosses collected is concerned, the following points may be noted: The Anomodons are quite common on living trees, near the base,—*A. rostratus* lower down than *A. minor* and seemingly preferring black ash. They are the only mosses found on living trees by the writer except *Amblystegium radicale* (Beauv.) Mitt.

Catharinea, *Polytrichum*, *Bryum*, *Ceratodon*, *Didymodon*, *Funaria*, *Ditrichum*, and *Leptobryum* are comparatively frequent on banks of roads. In the tamarack swamps, on the soil or about the base of trees, or on prostrate logs, *Sphagnum*, *Mnium*, *Dicranum*, *Hypnum*, *Thuidium*, *Amblystegium*, *Aulacomnium*, and *Hylocomium* are to be found. *Bartramia*, *Fissidens*, and *Mniobryum* are found on the side or bottom of ditches in the meadow.

All the Amblystegiums, except *A. orthocladon*, which occurs on stones, are found on decaying wood in moist situations. The same is true of the Hypnums, *Entodon*, *Platygyrium*, and all Thuidiums except *Th. Blarndowii* and *Th. delicatulum*, which are found on soil in the tamarack swamp. *Brachythecium acutum*, *B. rivulare*, and *B. salebrosum* were also collected in these swamps. *Climacium* is very common in meadows and near the borders of swamps and ponds, but does not fruit very freely.

Following is a list of the mosses collected by the writer in the vicinity of St. John's University, Collegeville, Stearns County, Minnesota, 1908–1910:

1. *Amblystegium varium* (Hedw.) Lindb. On decaying wood.
2. *Amblystegium serpens* (L.) Bryol. Eur. On decaying wood.
3. *Amblystegium riparium* (L.) Bryol. Eur. On decaying wood.
4. *Amblystegium Juratzkanum* Schimp. On decaying wood.
5. *Amblystegium orthocladon* (Beauv.) Kindb. On stone in bed of brook.
6. *Amblystegium radicale* (Beauv.) Mitt. Base of living tree.
7. *Anomodon minor* (Beauv.) Fuern.
8. *Anomodon rostratus* (Hedw.) Schimp.
9. *Aulacomnium palustre* (L.) Schwaeg. Tamarack swamp, on soil.
10. *Bartramia Oederi* (Gunn.) Schwaeg. Side of ditch.
11. *Brachythecium acutum* (Mitt.) Sull. Among other mosses in swamp.
12. *Brachythecium acuminatum* (Hedw.) Kindb. Base of trees and stumps.
13. *Brachythecium rivulare* Bryol. Eur. Soil of tamarack swamp.

14. *Brachythecium salebrosum* (Hoffm.) Bryol. Eur. Soil of tamarack swamp.
15. *Bryum bimum* Schreb. Roadside.
16. *Bryum caespiticium* L. Roadside.
17. *Bryum argenteum* L. Roadside.
18. *Catharinea angustata* Brid. Roadside.
19. *Catharinea undulata* (L.) W. and M. Roadside.
20. *Ceratodon purpureus* (L.) Brid. Roadside.
21. *Climacium americanum* Brid. On soil, at border of swamp.
22. *Climacium dendroides* (L.) W. & M. On soil, at border of swamp.
23. *Dicranum Bergeri* Bland. On soil at border of swamp.
24. *Dicranum flagellare* Hedw. On rotton wood, at border of swamp.
25. *Dicranum scoparium* (L.) Hedw. On rotten wood, at border of swamp.
26. *Didymodon rubellus* (Hoffm.) Bryol. Eur. Roadside.
27. *Ditrichum tortile* (Schrad.) Lindb.
28. *Drepanocladus aduncus* (Hedw.) Warnst. Bottom of dry ditch.
29. *Entodon cladorrhizans* (Hedw.) C. M. Rotten log.
30. *Fissidens adiantoides* (L.) Hedw. Side of ditch.
31. *Funaria hygrometrica* (L.) Sibth. Roadside.
32. *Georgia pellucida* (L.) Rabenh. On rotten stumps in tamarack swamp.
33. *Hedwigia albicans* (Web.) Lindb. On granite boulders.
34. *Hylocomium triquetrum* (L.) Bryol. Eur. On soil, border of swamp.
35. *Hypnum Haldanianum* Grev. On decaying log.
36. *Hypnum Crista-castrensis* L. On decaying log.
37. *Hypnum cordifolium* Hedw. In swamp on wet soil.
38. *Hypnum imponens* Hedw. On log.
39. *Leptobryum pyriforme* (L.) Wils. Roadside.
40. *Leucobryum glaucum* (L.) Schimp. On soil in swamp.
41. *Mnium cuspidatum* (L.) Leyss. (*M. sylvaticum* Lindb.) On soil in swamp.
42. *Mnium hornum.* L. On soil in swamp.
43. *Mnium affine* var. *ciliare* (Grev.) C. M. On soil in swamp.
44. *Mnium affine* var. *rugicum* (Laur.) Bryol. Eur. On soil in swamp.
45. *Mniobryum albicans* (Wahlenb.) Limpr. Bottom of dry ditch.
46. *Plagiothecium* sp. On soil in swamp.
47. *Polytrichum commune* L. Roadside.
48. *Polytrichum juniperinum* Willd. Roadside.
49. *Platygyrium repens* (Brid.) Bryol. Eur. On decaying log.
50. *Pylaisia Schimperi* Card. (*P. intricata* B. & S.) On bark of prostrate log.
51. *Rhodobryum roseum* (Weis) Limpr. On decaying log.
52. *Sphagnum acutifolium* Ehrh. In tamarack swamp.
53. *Sphagnum cymbifolium* Ehrh. In tamarack swamp.
54. *Thuidium microphyllum* (Sw.) Best. On log.
55. *Thuidium scitum* (Beauv) Aust. On log.

56. *Thuidium minutulum* (Hedw.) Bryol. Eur. On log.
57. *Thuidium Blandowii* (W. & M.) Bryol. Eur. On soil of tamarack swamp.
58. *Thuidium delicatulum* (L.) Mitt. On soil of tamarack swamp.

ST. JOHN'S UNIVERSITY, COLLEGEVILLE, MINNESOTA.

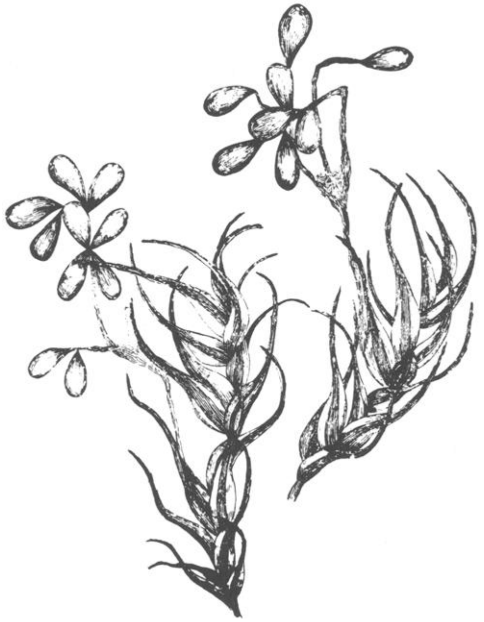

Fig. 1.—*Leocarpus fragilis* (Dicks.) Rost. growing on the leaves of *Dicranum fulvum* Hook. Drawing by Mrs. Eva B. Gadsby.

SLIME MOULD GROWING ON A MOSS

GEORGE B. KAISER

In climbing Wittenburg (3,802 ft.) in the Southern Catskill Mountains of New York on the 11th of August, 1912, my attention was arrested by mats of *Dicranum fulvum* Hook. upon whose leaves were growing clusters of what appeared to be glossy brown ovoid capsules. Upon further investigation these clusters were found to be the fructifications of a Myxomycete, which was later determined by Frank J. Keeley as *Leocarpus fragilis* (Dicks.) Rost.—a synonym of *Leocarpus vernicosus* Link. This slime mould rather frequently occurs on dead leaves, but seems to grow rarely on mosses. I have never at any other time made a like collection.